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Written on JANUARY 3, 2013 AT 7:30 AM by VKREMER

Preparing Aviators For Warfighting

Filed under FLEET AND THE FLEET MARINE FORCE, MILITARY MEDICINE, OPERATIONS [NO COMMENTS]

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Lt. Matt Reed, assigned to the Rampagers of Strike Fighter Squadron (VFA) 83, launches defensive missile from the deck of the USS Dwight D. Eisenhower (CVN 69), Nov. 21, 2012. VFA-83 and Dwight D. Eisenhower returned to Norfolk after operating in the U.S. 5th Fleet area of responsibility in support of Operation Enduring Freedom, maritime security operations and theater security cooperation efforts.

A U.S. Navy [F/A-18E](#) pilot and his wingman were on a routine trans-Atlantic ferry flight back to the United States. It was a beautiful cloudless late-fall evening, with night quickly approaching. The air crew was two hours into a five hour flight which was progressing ‘as normal.’ Both aircraft were flying straight and level in formation over the water at an altitude of 38,000 feet and cruise speed of 325 knots. There was no land in sight. The next rendezvous with the in-flight [U.S. Air Force KC-135 tanker](#) was scheduled in 30 minutes. Soon, refueling would be an issue.

The lead pilot was communicating his current flight parameters and briefing the specifics of the refueling rendezvous with his wingman, when the wingman noticed that the lead’s speech was becoming slurred, and it was taking ‘longer-than-normal’ to communicate his thoughts. The wingman asked how the lead pilot was feeling, and his lead responded that he was

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beginning to feel light-headed, dizzy and confused. The pilot personally noted that he was having trouble focusing on the instruments, even though they were both flying on auto-pilot. There were no secondary aircraft indications that there was an oxygen system malfunction. What could be wrong?

The wingman quickly realized from his recent requalification at the [Aviation Survival Training Center \(ASTC\)](#) on the [Reduced Oxygen Breathing Device \(ROBD\)](#) that his lead was likely experiencing hypoxia, a condition that starves the brain of oxygen. He immediately instructed his lead to execute specific emergency procedures that would allow him to begin to breathe emergency oxygen. This simple set of actions took the pilot several attempts to accomplish successfully. The wingman radioed to declared an emergency and requested immediate descent of the flight to an altitude of 10,000 feet from Air Traffic Control, which is the altitude where hypoxic hypoxia (altitude hypoxia) should no longer be an issue. Both aircraft began an immediate descent and were able to make alternative provisions to obtain in-flight fuel and allow both aircrewmembers to land safely as soon as an available airfield was available.

Although this scenario is fictional, it is not improbable. There have been instances where flights similar to this have occurred but the outcome was much more tragic. The loss of an aircraft, and more importantly the loss of a Naval Aviator, degrades warfighting readiness. Almost 90 percent of all U.S. Navy mishaps are attributed to human factors, and can be reduced or eliminated by regular training.

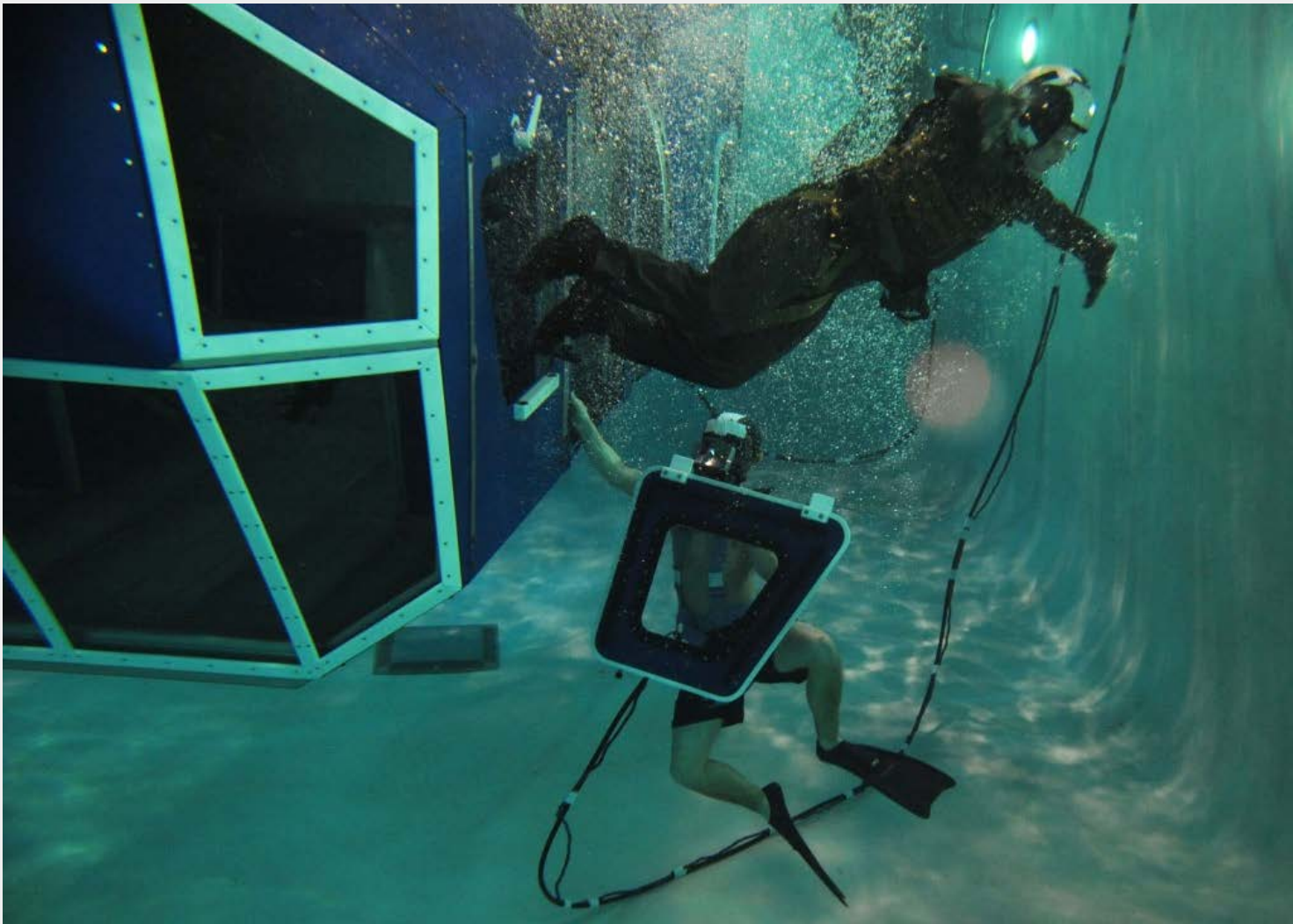


A student attending the refresher course in water survival at Aviation Survival Training Center, Marine Corps Air Station Miramar, Calif., is dragged with a pulley in a pool to simulate an ejection seat being pulled by a parachute in water. (U.S. Navy photo by Photographer's Mate Airman John Ciccarelli/Released)

To improve survivability of flight personnel, enhance flight mission performance and decrease mishap rates in the U.S. Navy and Marine Corps, the [Chief of Naval Operations](#)

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(CNO) designated the Bureau of Medicine and Surgery (BUMED) as the Training Agent for Aviation Physiology and Water Survival training. Pilots, aircrew, selected passengers, project specialists and other authorized individuals who fly in USN/USMC aircraft are required to visit one of eight ASTC's to complete initial and refresher training that emphasizes human factors and physiological threats in aviation physiology: hypoxia, hyperventilation, trapped gas expansion, decompression sickness, situational awareness, spatial disorientation, aviation life support systems, aeromedical aspects of ejection, fatigue and acceleration (G training). Students also are required to complete initial and refresher water survival training: over-water parachute descent procedures, parachute drag, helicopter hoisting, underwater egress/underwater problem solving, survival swimming, rescue devices and life raft organization.



A naval aviator swims to the surface after exiting the 9D6 dunker during a training exercise at the Aviation Survival Training Center (ASTC) at Naval Air Station Jacksonville.
(U.S. Navy photo by Mass Communication Specialist 2nd Class Todd Frantom/Released)



For more information on the Naval Survival Training Institute and locations of the Aviation Survival Training Centers click [here](#).

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